

ELECTRONICALLY FILED - 2018 June 29 4:43 PM - SCPSC - Docket # 2018-3-E - Page 1 of 11

1. That all information shall be provided to the undersigned in the format as requested.
2. That all responses to the below Requests for Production shall be labeled using the same numbers as used herein.
3. That if the requested information is found in other places or in other exhibits, reference not be made to those, but, instead, that the information be reproduced and placed in the responses to these Requests for Production in the appropriate sequence.
4. That any inquiries or communication relating to questions concerning clarifications of the data requested below be directed to the undersigned.
5. That all exhibits be reduced to an 8 1/2" x 11" format or produced in native electronic format at original size.

6. That each Request be reproduced at the beginning of the response thereto.
7. That DEC provides the undersigned with responses to these Requests for Production (including any objections) as soon as possible, but **not later than twenty (20) days from the date of service hereof.**
8. If the response to any Requests for Production is that the information requested is not currently available, state when the information requested will become available.
9. These Requests for Production shall be deemed continuing so as to require DEC to supplement or amend its responses as any additional information becomes available up to and through the date of trial.
10. If a privilege not to answer a Request is claimed, identify each matter as to which the privilege is claimed, the nature of the privilege, and the legal and factual basis for each such claim.
11. If a refusal to respond to a Request is based on the grounds that same would be unduly burdensome, please provide specific details concerning the alleged burden, including the number and nature of documents that would need to be searched, the location of the documents, and an estimate of the number of hours and costs required to conduct the search.
12. If a refusal to respond to a Request is based on the grounds that the same is vague or ambiguous, please contact counsel for Solar Business Alliance, Inc. immediately to request clarification or revision of the request, thereby avoiding any unnecessary delay in resolving your concern.
13. Please answer each Request on the basis of the entire knowledge of DEC, including information in the possession of DEC or its consultants, representatives, agents, experts, operating divisions, business divisions, assigns, partners, and attorneys, if any.
14. If any Request cannot be answered in full, respond to the extent possible and specify the reasons for DEC's inability to produce.
15. To minimize any burden associated with responding to these requests, You may exclude from your response any documents that are dated before January 1, 2017. or that you believe were created before January 1, 2017.
16. **Please provide a copy of the information responsive to this request in electronic working spreadsheet (Microsoft Excel) format with all data and formulas intact and unlocked, to the extent feasible.**

### **DEFINITIONS**

As used herein, the following terms shall have the meaning and be interpreted as set forth below:

1. **“You” or “your” shall refer to, DEC.**
2. **The conjunctions “and” and “or” shall be interpreted** in each and every instance as meaning “and/or” and shall in neither instance be interpreted disjunctively to exclude any document or information otherwise within the scope of any description or request made herein.
3. **“Document” shall mean** all originals of any nature whatsoever, identical copies and all non-identical copies thereof, pertaining to any medium upon which intelligence or information is recorded in DEC’s possession, custody or control, or other tangible objects regardless of where located; including, without limiting the generality of foregoing, punch cards, print-out sheets, movie film, slides, photographs, records, work papers, source documents, microfilm, notes, letters, memoranda, ledgers, worksheets, books, magazines, notebooks, diaries, calendars, appointment book registers, charts, cable, papers, agreements, contracts, purchase orders, acknowledgements, invoices, authorizations, budgets, analyses, projections, transcripts, minutes of meeting of any kind, correspondence, telegrams, drafts, data processing disks or tapes, or computer-produced interpretations thereof, instructions, announcements, schedules, and price list. Media includes data on computers, laptop computers, netbook computers, cell phones, telephones, PDA’s, Blackberry’s or Blackberry type devices, smart phones, external hard drives and flash drives or storage devices of any type, of DEC and specifically includes the computer and or laptop computers utilized by Representatives of DEC. Media means media, as broadly as the term “media” may be defined, that contains electronic data, as to the Interaction between SCSBA and DEC.
4. **“Identify” or “identity”** used with reference to an individual means to state his or her full name, present or last known address, present or last known position and business affiliation, and employer, title, and position at the same time in question.
5. **“Identify” or “identity”** used with reference to a writing means to state the date, author, type of document (e.g. letter, memorandum, telegram, chart, note, application, etc.) or other means of identification, and its present location or custodian. If any such document is no

longer in DEC's possession or subject to their control, state what disposition was made of the document(s).

6. The **“current review period”** means the historical time period for which fuel costs are subject to review in this proceeding, as defined by S.C. Code Ann. § 58-27-865(B).

7. A **“sub-portion” of the “current review period”** is any shorter time period encompassed by the review period (e.g. a specific day, week or month).

8. The **“forecast review period”** means the time period for which a forecast of Your fuel costs is subject to review in this proceeding, as defined by S.C. Code Ann. § 58-27-865(B).

9. A **“sub-portion” of the “forecast review period”** is any shorter time period encompassed by the review period (e.g. a specific day, week or month).

10. A **“forecast” or “forecasts”** is the result of a quantitative modeling process, or a prediction, or an estimate of what might occur, or an estimate of what is likely to occur in the future (at a time subsequent to the time when the forecast was prepared).

11. **“Production Costs”** are the cost of operating a generating unit to produce electricity, including (but not necessarily limited to) fuel costs.

12. **“Production Cost Models”** are software programs or system that are used in the electric power industry to analyze, estimate or forecast the amount of electricity that will be produced by fleet of generators, or individual generating units, during a specified time period, and the cost of producing this electricity (including but not necessarily limited to fuel costs) along with related information (e.g. the anticipated optimal dispatch order). Examples of Production Cost Models include PROMOD (See: <https://new.abb.com/enterprise-software/energy-portfolio-management/market-analysis/promod>) PROSYM (See <https://new.abb.com/enterprise-software/energy-portfolio-management/market-analysis/zonal-analysis>) AURORA (See: <http://epis.com/aurora/>) and GenTrader (See: <http://www.powercosts.com/wp-content/uploads/PCI-GenTrader.pdf>)

13. **“Duck Curve”** refers to the operational challenges associated with increased amounts of solar generation, as discussed in Your March 29, 2018 Allowable Ex Parte Briefing to the South Carolina Public Service, Commission (Proceeding No. 18-11715).

14. All references to the singular contained herein shall be deemed to include the appropriate plural number and all references to the plural shall be deemed to include the singular. All references to the masculine gender contained herein shall be deemed to include the appropriate feminine and neuter genders.

### **FIRST REQUEST FOR PRODUCTION**

1. Please provide a copy of all documents that You relied upon in completing Your answers to SCSBA's First Set of Interrogatories.

2. Please provide a copy of all discovery requests or other requests for information submitted to you by the Office of Regulatory Staff ("ORS") or other parties to this proceeding.

3. Please provide a copy of any responses to information requests or discovery and any correspondence sent or provided by you to ORS or other parties to this proceeding. This request includes all documents, electronic files or other attachments that were provided, or made available by you for on-site inspection.

4. Please provide a copy of all workpapers that support, or were used in the development of the numbers included in your testimony and exhibits in this proceeding that are forecasts.

5. Please provide a copy of any documents that summarize, present, discuss, comment on, or mention any of the workpapers requested in 4 above.

6. Please provide a copy of any documents that summarize, present, discuss, comment on, or mention Your Production costs, including but not limited to fuel costs, during the forecast review period.

7. Please provide a copy of all documents relating to your calculation of Production costs, including but not limited to fuel costs, on an hourly, daily, or weekly basis (e.g. actual or estimated costs during individual days) during the current review period, or any sub-portion thereof.

8. Please provide a copy of all documents describing Your Production costs, including but not limited to fuel costs, on a daily basis during the current review period, or any sub-portion thereof.

9. Please provide a copy of all documents that would enable SCSBA or the Commission to review your fuel costs (or production costs, including fuel costs) on an hourly basis (fuel costs incurred during individual hours) during the current review period, or any sub-portion thereof.

10. Please provide a copy of all documents describing Your Production costs, including but not limited to fuel costs, on an hourly basis during the current review period, or any sub-portion thereof.

11. Please provide a copy of all documents that would enable SCSBA or the Commission to review Your Production costs, including but not limited to fuel costs during individual days within the forecast review period, or any sub-portion thereof.

12. Please provide a copy of all documents relating to projections, forecasts, or estimates of Your Production costs, including but not limited to fuel costs, during the forecast review period, or any sub-portion thereof.

13. Please provide a copy of all documents that would enable SCSBA or the Commission to review your fuel costs (or production costs, including fuel costs) on an hourly basis during the forecast review period, or any sub-portion thereof.

14. Please provide a copy of all documents relating to forecasts of Your Production costs, including but not limited to fuel costs, on monthly, daily, or hourly basis during the forecast review period, or any sub-portion thereof, including but not limited to electronic data files used as input for any Production Cost Model or containing the output of such model.

15. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention any of the forecasts and/or Production Cost Model output responsive to Request no. 14.

16. Please provide a copy of all documents that contain or summarize the output from a Production Cost Model that includes the forecast review period or any sub-portion thereof (regardless of whether or not any earlier or subsequent time periods are also included in the output).

17. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention any of the Production Cost Model output that was requested in 16 above.

18. Please provide a copy of the inputs that were used to produce the Production Cost Model output requested in 14 and 15 above. To the extent the inputs are not identical in every case, please indicate which inputs were used to develop which outputs.

19. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the choice of inputs to use in preparing the Production Cost Model output that was requested in 14 and 15 above.

20. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the anticipated amount of solar generating capacity on Your system during the forecast review period or any sub-portion thereof.

21. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the anticipated or potential effect of changes in the amount of solar generating capacity on Your Production costs, including but not limited to fuel costs, during the forecast review period or any sub-portion thereof.

22. Please provide a copy of all documents summarize, present, discuss, comment on, or mention the anticipated or potential effect of changes in the amount of solar generating capacity on the timing of Your daily, monthly, seasonal or annual peak system load during the forecast review period or any sub-portion thereof, or during any longer time period which encompasses the forecast review period or any sub-portion thereof.

23. Please provide a copy of all documents summarize, present, discuss, comment on, or mention the anticipated or potential effect of changes in the amount of solar generating capacity on the magnitude of Your daily, monthly, seasonal or annual peak system load during the forecast review period or any sub-portion thereof, or during any longer time period which encompasses the forecast review period or any sub-portion thereof.

24. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention efforts You undertook or considered undertaking to minimize or control Your fuel costs during the review period, in response to increased amounts of solar generating capacity and/or solar generation on Your system. This includes but is not limited to changes relating to “ramp rates” of existing base load generating units, changes relating to the operation of Your pumped storage units, changes to off-system power purchases and sales, or other operational changes that might have the effect of increasing or decreasing Your fuel costs under circumstances where solar energy provides an increased share of the overall resource mix.

25. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention efforts You anticipate undertaking, or are considering, in order to minimize or control Your fuel costs during the review period in response to increased amounts of solar energy, including but not limited to changes relating to “ramp rates” of existing base load generating units, changes relating to the operation of Your pumped storage units, changes to off-system power purchases and sales, or other operational changes that might have the effect of increasing or decreasing Your fuel costs under circumstances where solar energy provides an increased share of the overall resource mix.

26. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention efforts You anticipate undertaking, or would consider undertaking, in order to minimize the impact of a “Duck Curve” on Your system during the forecast review period or any sub-portion thereof, or during any longer time period which encompasses the forecast review period or any sub-portion thereof.

27. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the impact of the Bad Creek Pumped Storage Hydroelectric Station on Your fuel costs during the forecast review period or any sub-portion thereof, or during any longer time period which encompasses the forecast review period or any sub-portion thereof.

28. Please provide a copy of all documents relating to Your plans to upgrade the Bad Creek Pumped Storage Hydroelectric Station including (but not limited to) the most current available estimate of the cost of upgrading the station and the resulting reduction in Your fuel costs. This includes, but is not limited to information concerning the reduction in fuel costs that could have been achieved if this upgrade had been completed during the current or forecast review period.

29. Please provide a copy of all documents related to Your records and forecasts of the effect of daily weather conditions on Your fuel costs during the current or forecast review period, including (but not necessarily limited to) any documents showing cooling or heating degree days within DEC’s service territory during the current or forecast review period or any sub-portion thereof.



30. Please provide a copy of all documents related to Your records and forecasts of the effect of hourly weather conditions on Your fuel costs during the current or forecast review period, including (but not necessarily limited to) any documents showing hourly temperatures within DEC's service territory during the current or forecast review period or any sub-portion thereof.

31. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the relationship between weather conditions and Your system load, grid conditions, net load obligation or reserve requirements, including (but not limited to) the extent to which forecasted heating or cooling degrees (or forecasted weather conditions) affect day ahead or other short-term load forecast.

32. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the relationship between Your day ahead or other short term load forecast and the choices you face (and decisions you make) in selecting specific generating units You operate each day, and the order in which you dispatch (or anticipate dispatching) those generating units.

33. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the relationship between Your day ahead or other short term load forecast and the way you determine which generating units to operate, and the order in which you anticipate dispatching generating units to meet system load.

34. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the relationship between Your day ahead or other short term load forecast and the anticipated or forecasted level of solar energy output during that day, or other short term load forecast period.

35. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the relationship between solar name plate capacity (or solar energy output) and forecasts of Your system load during the forecast review period or any sub-portion thereof (or during any longer time period which encompasses the forecast review period or any sub-portion thereof).

36. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the relationship between solar name plate capacity (or solar energy output) and forecasts of the extent to which Your generating units will be operated (or fuel will be burned) during the forecast review period or any sub-portion thereof (or during any longer time period which encompasses the forecast review period or any sub-portion thereof).

37. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention the relationship between the output from solar generators and net system load during the current review period or any sub-portion thereof, or during any longer time period which encompasses the forecast review period or any sub-portion thereof, including but not limited to any documents summarizing the metered output of solar facilities that are interconnected to Your system.

38. Please provide a copy of all documents that summarize, present, discuss, comment on, or mention to growth in utility scale solar on Your system during the forecast review period or any sub-portion thereof, or during any longer time period which encompasses the forecast review period or any sub-portion thereof, including (but not limited to) documents relating to the impact of growth in solar generation on Your fuel purchasing practices or fuel costs, the rate of growth in solar output during specific time periods, documents related to the amount of energy DEC anticipates receiving from utility scale solar projects during specific time periods, and documents indicating what portion of the projects in your interconnection queue You anticipate will be completed or withdrawn.

39. Please provide a copy of Your actual hourly system load data for the current and review period, using the same format as, and consistent with, the data DEC is required to submit on FERC Form No. 714. Please provide this data in an Excel worksheet, or using an Excel-compatible file format.

40. To the extent available, please provide a copy of Your actual hourly system load data for the forecast review period, using the same format as, and consistent with, the data DEC is required to submit on FERC Form No. 714. Please provide this data in an Excel worksheet, or using an Excel-compatible file format.

**[Signature Page Follows]**

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Richard L. Whitt,

Timothy F. Rogers,

**AUSTIN & ROGERS, P.A.,**

508 Hampton Street, Suite 203

Columbia South Carolina, 29201

(803) 256-4000

Counsel for South Carolina Solar Business Alliance,  
Inc.

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Columbia, South Carolina